

Date: Wednesday, 3/21/2007 3:48:35 PM
 User: Kim Johnston

Process Sheet

Customer	CU-DAR001 Dart Helicopters Services		Drawing Name	WEARPAD		
Job Number	31419					
Estimate Number	12782					
P.O. Number	N/A		Part Number	D35643		
This Issue	3/21/2007	S.O. No.	N/A	Drawing Number	D3564 REV A	
Prsht Rev.	NC			Project Number	N/A	
First Issue	N/A	Type	SMALL /MED FAB	Drawing Revision	A	
Previous Run	31134		Material	N/A		
Written By			Due Date	3/30/2007	Qty:	10
Checked & Approved By	JAN 07.03.22		Um:	Each		
Comment	Est Rev:A New Issue 07-03-08 ec					

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
1.0	M304S16GA	304/316 .063 Sheet
Comment: Qty.: 0.9177 sf(s)/Unit Total : 9.1770 sf(s) M304S16GA Stainless steel sheet 0.063" thick Batch: M1900 M19052 (a) M19053 (1) JAN 07/03/25 (1)		
2.0	WATER JET	FLOW WATER JET
Comment: FLOW WATER JET 1-Cut as per Dwg D3564 ****(D3564-1F)**** Dwg Rev: A Prog Rev: A JAN 07/03/25 (1)		
2-Deburr if necessary		
3.0	QC2	INSPECT PARTS AS THEY COME OFF MACHINE
Comment: INSPECT PARTS AS THEY COME OFF MACHINE JAN 07/03/25 (1)		
4.0	QC8	SECOND CHECK
Comment: SECOND CHECK JAN 07/03/25 (1)		
5.0	BRAKE NC	NC BRAKE
Comment: NC BRAKE Deburr if necessary Form on Brake as per Dwg D3564 using Jigs DT and DT MF 07-03-30 (10)		
Form Joggle as per Dwg D3564 on brake using Jig DT8157 SP 07/04/02 (10)		

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Wednesday, 3/21/2007 3:48:35 PM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services		Drawing Name: WEARPAD
Job Number: 31419		Part Number: D35643
Job Number:		
Seq. #:	Machine Or Operation:	Description :
6.0	QC5	INSPECT WORK TO CURRENT STEP <i>070402</i>
Comment: INSPECT WORK TO CURRENT STEP Ensure joggle as per dwg D3564		
7.0	LARGE FAB 1	LARGE FABRICATION RESOURCE 1
Comment: LARGE FABRICATION RESOURCE 1 Qty Description Batch A/R 2059B Hardcoat 102755 Weld hardcoat as per Dwg D3564 FC 07/04/14 OK TO CONTINUE AT 02.04.10 TURN OVER		
8.0	QC9	VISUAL WELDING INSPECTION
Comment: VISUAL WELDING INSPECTION 07/04/23 (10)		
9.0	QC5	INSPECT WORK TO CURRENT STEP
Comment: INSPECT WORK TO CURRENT STEP 07/04/23 (10)		
10.0	POWDER COATING	POWDER COATING <i>M101601</i>
Comment: POWDER COATING Powder Coat Grey Sandtex (Ref: 4.3.5.6) as per QSI 005 4.3 07-04-26 (10)		
11.0	QC3	INSPECT POWDER COAT/CHEMICAL CONVERSION
Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION <i>M.L 07/04/30</i> (10X)		
12.0	PACKAGING 1	PACKAGING RESOURCE #1
Comment: PACKAGING RESOURCE #1 Identify and Stock Location: FP18 04-04-30 (10)		
13.0	QC21	FINAL INSPECTION/W/O RELEASE
Comment: FINAL INSPECTION/W/O RELEASE 07/05/01 (10)		
Job Completion		
		<i>u 8/20/01</i>

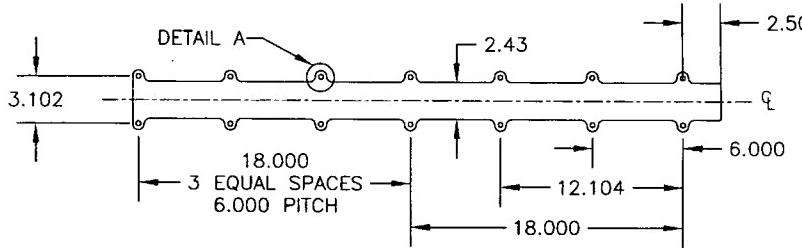
Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

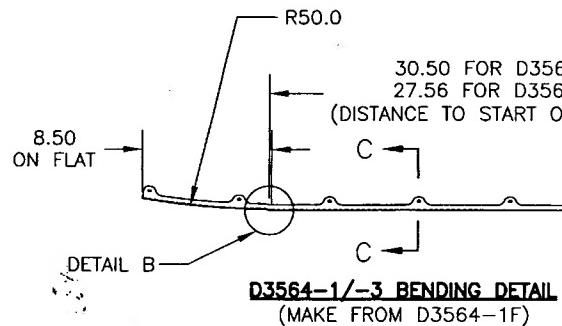
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: Date: 07/05/18
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
07/04/18	7	TAB WILL NOT FIT SKIDTUBE <i>RJL por 07.04.18 WSI 042</i>	<i>OPEN TABS BY 0.060"</i> <i>SEE ATTACHED</i>	<i>FF 07/04/18</i>	<i>07/04/18</i>			<i>J 07/04/18 07/04/18 07/04/18</i>

NOTE: Date & initial all entries

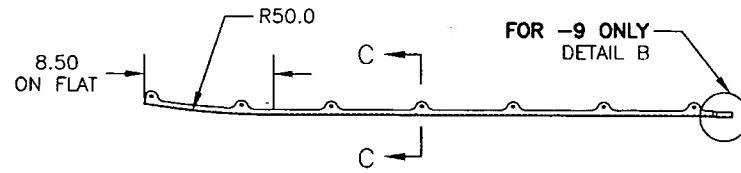


D3564-1F FLAT PATTERN



D3564-1/-3 BENDING DETAIL
(MAKE FROM D3564-1F)

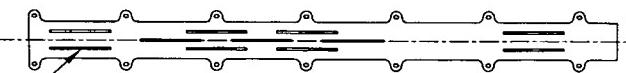
FOR -1 ONLY
DETAIL B



D3564-9/-11 BENDING DETAIL
(MAKE FROM D3564-1F)

NO. 31419
WORK ORDER
WITHOUT NOTICE
SUBJECT TO AMENDMENT
UNCONTROLLED COPY
ENGINEERING COPY
RETURN TO
SHOP COPY

2059B HARDCOAT WELD
4.0 LONG
0.063 TO 0.125 HIGH
(TYP. 11 PLS.)
WELD AFTER BENDING AS
ILLUSTRATED PER DT8308



D3564-1/-3/-9/-11 WELDING DETAIL

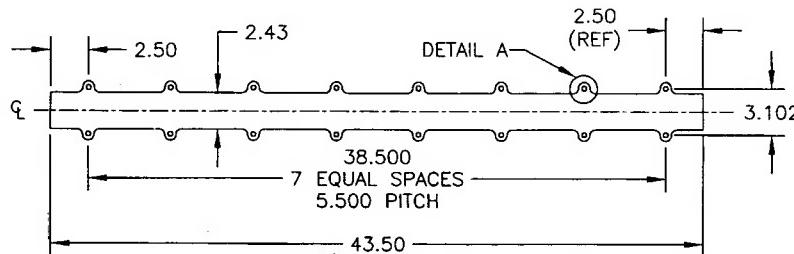
D3564-1/-3/-5/-7/-9/-11/-13 WEARPLATE NOTES

- 1) MATERIAL: AISI 304/316 SS SHEET, 16 GAUGE (0.063 THICK)
(REF DART MATERIAL SPEC M304S16GA)
- 2) FINISH: POWDER COAT GREY SANDEX (REF 4.3.5.6) PER DART QSI 005 4.3
- 3) WELD PER DART QSI 004
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 6) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 7) PART IS SYMMETRICAL ABOUT CENTERLINE

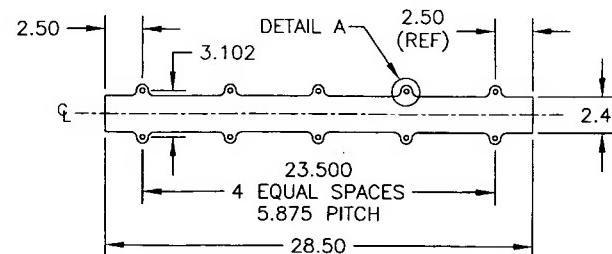
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A	06.12.18	NEW ISSUE
DESIGN	DRAWN BY	DART
P4	P4	DART AEROSPACE LTD. HAWKSBURY, ONTARIO, CANADA
CHECKED	APPROVED	DRAWING NO.
		D3564
DATE		REV. A
06.12.18		SHEET 1 OF 2
		SCALE
		1:8
		TITLE
		WEARSHOE

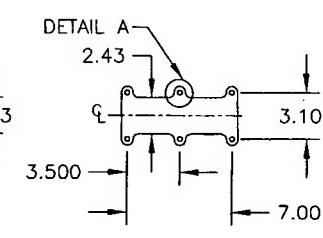
RELEASED
07-07-28



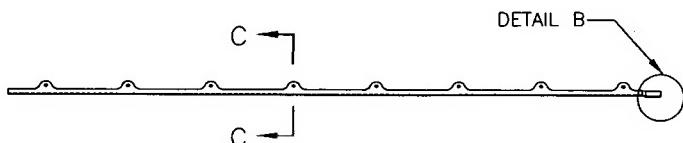
D3564-5F FLAT PATTERN



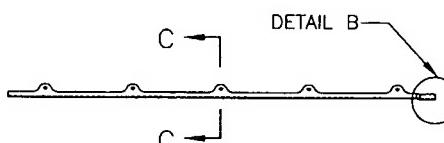
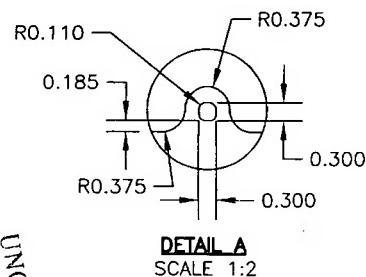
D3564-7F FLAT PATTERN



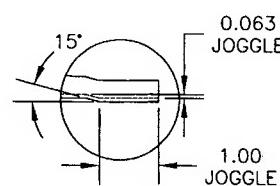
D3564-13F FLAT PATTERN



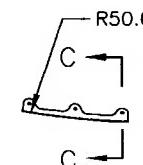
D3564-5 BENDING DETAIL
(MAKE D3564-5 FROM D3564-5F)



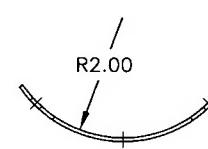
D3564-7 BENDING DETAIL
(MAKE D3564-7 FROM D3564-7F)



DETAIL B
SCALE 1:2



D3564-13 BENDING DETAIL
(MAKE D3564-13 FROM D3564-13F)



SECTION C-C
SCALE 1:2

RELEASED
07/02/78

1
314
19
RIDER
NOTICE
TO AMENDMENT
ROLLED CO
ENGINEERING
TURN TO
SHOP

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DESIGN
PH
CHECKED
PH

DRAWN BY
PH
APPROVED
PH

DART
DRAWING NO.
D3564
DATE
06.12.18

DART AEROSPACE LTD.
HAWKESBURY, ONTARIO, CANADA
REV. A
SHEET 2 OF 2
SCALE
1:8

DART AEROSPACE LTD

Work Order: 31419

Description: Wear Pad

Part Number: D35643

Inspection Dwg: D35643 Rev: A

Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST



First Article



Prototype

Inspection Sheet Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
A 12.104	+/- 0.010	12.100	✓		M-T /cm	
B 18.000	+/- 0.010	18.000	✓		M-T	
C 6.000	+/- 0.010	6.003	✓		Vern	
D 6.000 (Pitch)	+/- 0.010	5.998	✓		Vern	
E 3.102	+/- 0.010	3.098			Vern	
F 2.50	+/- 0.030	2.51			Vern Vertical	
G 2.43	+/- 0.030	2.43	✓		Vern	
H 0.300	+/- 0.010	0.302	✓		Vern	
I 0.300	+/- 0.010	0.306	✓		Vern	
J 0.063	+/- 0.010	0.066	✓		Vern	
K						
L						
M						
N						
O						
P						
Q						
R						
S						
T						
U						
V						
W						
X						
Y						

Measured by:	SAB
Date:	07/03/25

Audited by:	
Date:	07/03/25

Prototype Approval:	N/A
Date:	N/A

Rev	Date	Change	Revised by	Approved
		New Issue	KJ/RF	

L Lacelle

From: Peter Hum [phum@dartaero.com]
Sent: April 13, 2007 9:11 AM
To: 'Chris Provencal'; 'Jason Murdoch'; 'Bill Beckett (Bill Beckett)'; cbell@dartaero.com; 'Dale Trepanier'; 'Dan Stow (Dan Stow)'; 'Eric Charbonneau'; 'Jean Luc Menard'; 'Kim Johnston (Kim Johnston)'; 'Leanne Elsliger'; 'Linda Lacelle (Linda Lacelle)'; 'Marc Bellavance'; 'Serge Shahbazian'; 'Susanne Sheldon (Susanne Sheldon)'
Subject: UNDER REVIEW D3535, D3537, D3564 WEARPLATES/WEARPADS

Drawings D3535, D3537, and D3564 are UNDER REVIEW. All production of the wearplates/warpads called up on the drawings should be STOPPED.

Engineering has discovered a problem with the tabs not being wide enough when the gasket is installed underneath.

I will be providing Eric and JLM a small set of revised wearplates to perform a fit and function before they are released.

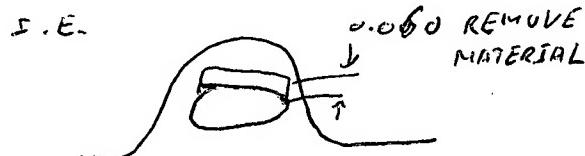
Items in stock can be re-worked to fit in order to meet demand.

Once the revised wearplates are okay for assembly, I will release an updated drawing.

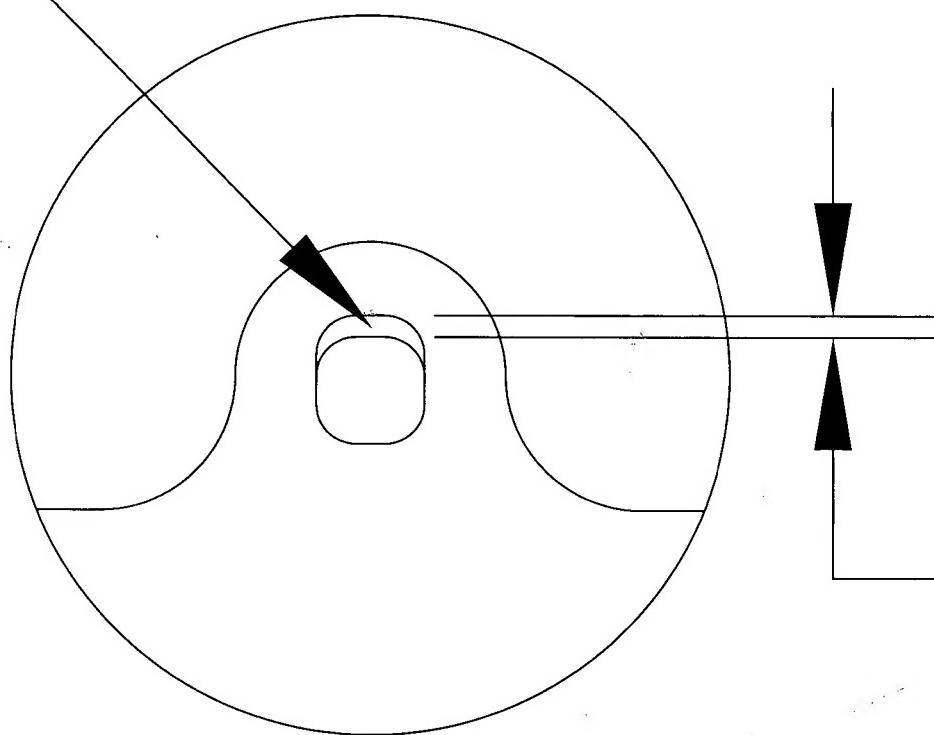
-Peter

		sfh	ON WFC
D3535		69 - 18	18 - 31747
D3537	D3537-1	69 - 18	10 - 31725
	-1	6	10 - 31467
D3564		3	10 - 36419
	-13	6	
	-5	16	
		12	36726
FOR D412-742-0111-013	D3537-3		

• OPEN TABS 0.060''
OUTBOARD TO ALLOW INSTALLATION



REMOVE
MATERIAL



Peter Hum

From: David Shepherd [dshepherd@dart Aero.com]
Sent: April 12, 2007 4:55 PM
To: 'Peter Hum'
Cc: 'Chris Provencal'; 'Jason Murdoch'; 'L Lacelle'; 'S Shahbazian'; 'Bill Beckett'; 'Jean-Luc Menard'; 'Eric Charbonneau'
Subject: RE: stainless steel wearplate with gasket tab widening

This is an acceptable deviation to me.

However, the parts have to be cleaned up considerably from what I saw in the pictures (deburred and paint touched up).

It is my understanding that these tubes are going to a high profile customer (Air Log). It can't be done half-assed or look like it was made to fit, in my opinion.

I can't understand why we are just finding out now that the flat pattern is 0.100" to 0.120" too narrow the day before we want to ship the parts. It seems to me this could have been tried with one small prototype piece on a couple sets of holes before we programmed and cut multiple parts on the waterjet. When I sign the drawings, I am assuming all of this stuff has been worked out. I would guess that the programmers are making the same assumption.

We have done a lot of conversions to stainless steel wearplates on other STC's (350, 412 float, 135). Have we done fitups for all of these parts to ensure that they will fit properly with the gasket?

Thanks,
David

From: Peter Hum [mailto:phum@dart Aero.com]
Sent: Thursday, April 12, 2007 2:30 PM
To: 'David Shepherd'
Cc: 'Chris Provencal'; 'Jason Murdoch'; 'L Lacelle'
Subject: stainless steel wearplate with gasket tab widening

David,

+ 0412-742 84 02.04.17

We are trying to ship a 206L/407 float skidtube with stainless steel wearplates and the rubber gasket. Upon assembly we have found that the extra thickness the gasket gives, causes a difficult fit for the wearplate.

Jason opened the holes on the tab and the bolts not fit properly, to join the wearplates to the skidtube (see the attached pictures). We would have to open up all the wearplate tabs.

Is this an acceptable deviation for this shipment?

For future shipments the flat pattern will need to be updated.

Thanks
Peter